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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,424	07/29/2003	Jeffrey A. Read	ARL 01-37	5300

21364 7590 06/16/2005

U S ARMY RESEARCH LABORATORY  
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EXAMINER
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RHEE, JANE J

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/628,424	<b>Applicant(s)</b> READ, JEFFREY A.	
	<b>Examiner</b> Jane Rhee	<b>Art Unit</b> 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/24/2003</u> . | 6) <input type="checkbox"/> Other: ____.  |

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Kasamatsu et al.(20030096168).

As to claim 1, Kasamatsu et al. discloses an electrolyte for a metal oxygen battery, the electrolyte comprising a non-aqueous solvent being characterized in that the solubility of oxygen therein is at least 0.1150 ccO<sub>2</sub>/cc solvent at STP, and a metal electrolyte salt dissolved in the solvent (pg 4 paragraphs 0069,0071).

As to claim 2, Kasamatsu et al. discloses that the solvent comprises a mixture of materials, and wherein at least 50% on a weight basis of the materials have an oxygen solubility of at least 0.1760 ccO<sub>2</sub>/cc at STP (pg 4 paragraphs 0069,0071).

As to claim 3, Kasamatsu et al. discloses that the nonaqueous solvent comprises diethyl carbonate (pg 4 paragraphs 0069).

As to claim 4, Kasamatsu et al. discloses that the metal oxygen battery is a lithium battery and wherein the metal electrolyte salt is a lithium salt (pg 4 paragraph 0071).

As to claim 5, Kasamatsu et al. discloses that the lithium salt is LiPF<sub>6</sub> (pg 4 paragraph 0071).

As to claim 6, Kasamatsu et al. discloses that the metal electrolyte salt is in the range of 0.5-1.0 molar (page 5 paragraph 0096).

As to claim 7, Kasamatsu et al. discloses a metal oxygen battery comprising a metal containing anode (page 3 paragraph 0049), an electro-active oxygen cathode (page 3 paragraph 0055), an electrolyte disposed so as to provide ionic communication between the anode and the cathode (page 2 paragraph 0026), the electrolyte comprising a non aqueous solvent, the solvent characterized in that the solubility of oxygen therein is at least 0.1150 cc O<sub>2</sub>/cc at STP and a metal electrolyte salt dissolved in the solvent (pg 4 paragraphs 0069,0071).

As to claim 8, Kasamatsu et al. discloses wherein the nonaqueous solvent comprises a plurality of components, and wherein the oxygen solubility of at least 50% of the components on a weight bases is at least 0.1760 cc O<sub>2</sub>/cc at STP (pg 4 paragraphs 0069,0071).

As to claim 9, Kasamatsu et al. discloses a method for optimizing the composition of an electrolyte for a metal oxygen battery, the electrolyte comprising a solvent and an electrolyte salt, the method comprising the step of selecting the solvent from those materials which will dissolve the electrolyte salt and which have a solubility for oxygen which is at least 0.1150 cc O<sub>2</sub>/cc at STP (pg 4 paragraphs 0069,0071).

As to claim 10, Kasamatsu et al. discloses wherein the solvent is selected from materials comprising a mixture of components in which at least 50% of the components

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on a weight basis have a solubility for oxygen which is at least 0.1760 cc O<sub>2</sub>/cc at STP (pg 4 paragraphs 0069,0071).

As to claim 11, Kasamatsu et al. discloses an electrolyte for a lithium oxygen battery, the electrolyte comprising on a weight basis; 1 part of a first component of propylene carbonate and at least one part of a second component of diethyl carbonate and 0.5-1.0 moles of lithium electrolyte salt (pg 4 paragraphs 0069,0071).

As to claim 12, Kasamatsu et al. discloses that the electrolyte salt comprises LiPF<sub>6</sub> (pg 4 paragraphs 0069,0071).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jane Rhee whose telephone number is 571-272-1499. The examiner can normally be reached on M-F 9-6.

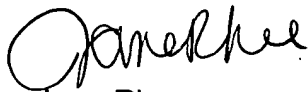
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in cursive script, appearing to read "Jane Rhee".

Jane Rhee  
June 10, 2005

A handwritten signature in cursive script, appearing to read "Patrick Joseph Ryan".

**PATRICK JOSEPH RYAN**  
**SUPERVISORY PATENT EXAMINER**